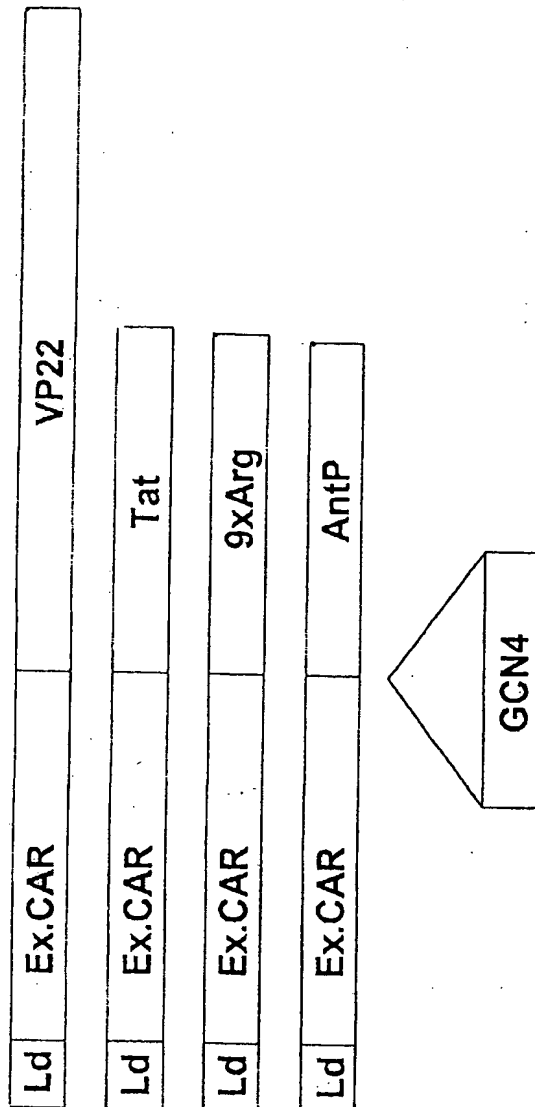




# **Construction diagram**

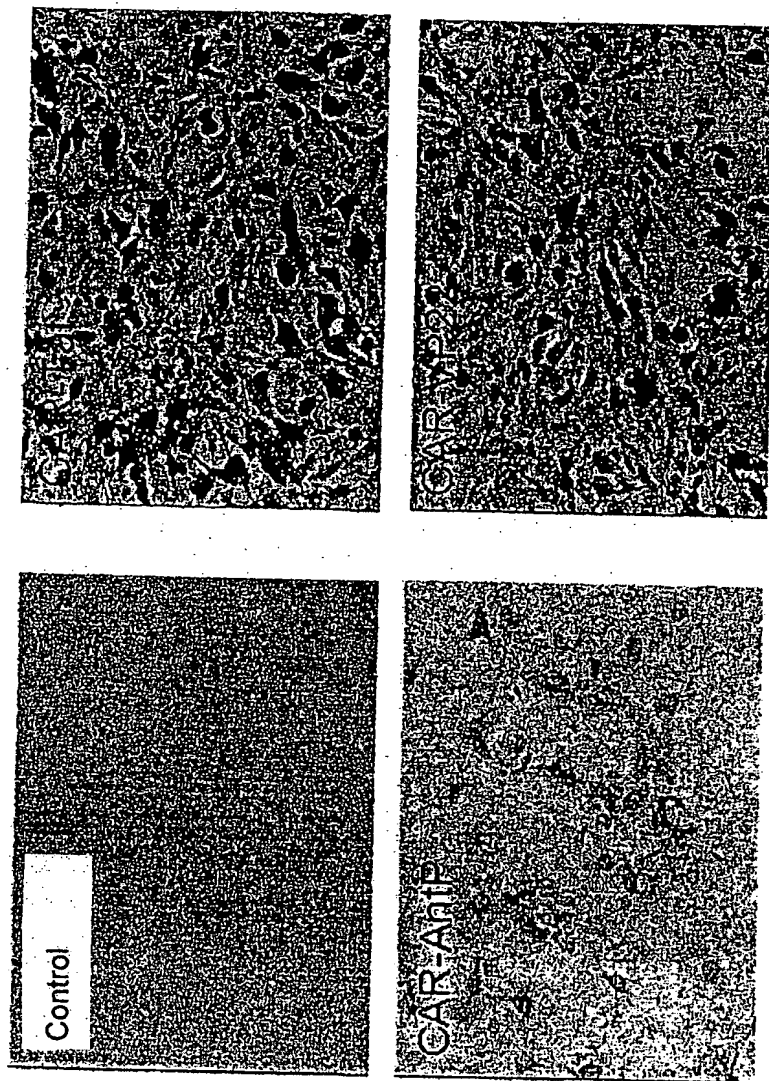
**Figure 1**



## **Legend:**

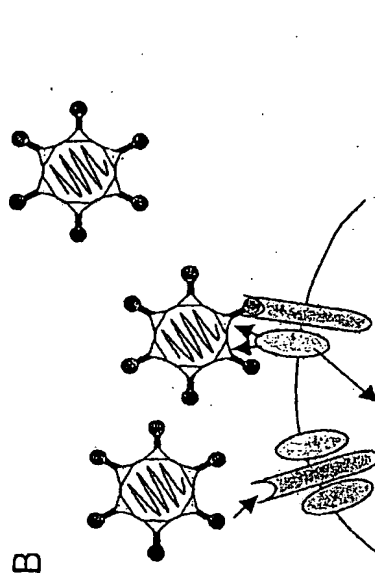
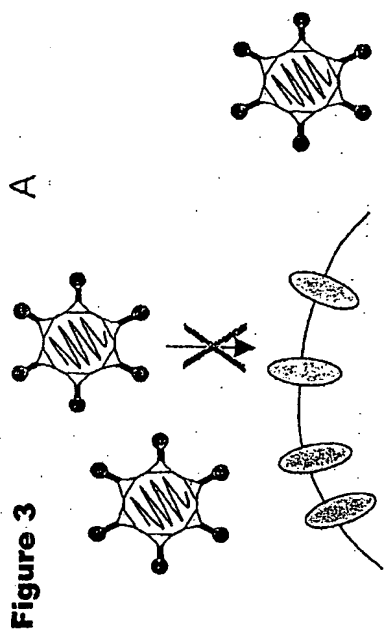
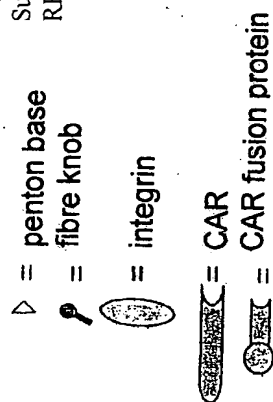
- Ld = natural leader sequence of the coxsackie adenovirus receptor for synthesis of the protein into the endoplasmic reticulum
- Ex.CAR = extracellular domain of the coxsackie adenovirus receptor
- GCN4 = optional insertion of an oligomerization domain (here GCN4 as an example) for possible intensification of the CAR/fibre knob affinity

**Figure 2**

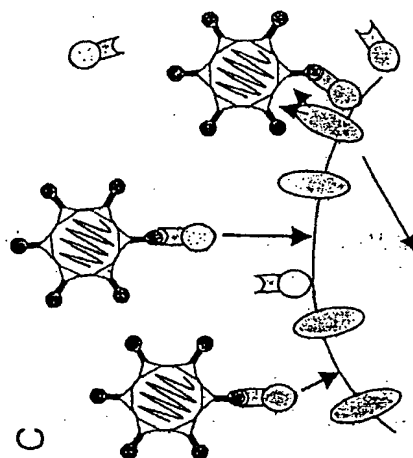


Fusion proteins from the extracellular domain of the Coxsackie adenovirus receptor and basic peptides or VP22 increase the adenoviral infection of CAR-deficient NIH3T3 fibroblasts.

293 cells were transfected with expression constructs for the fusion proteins shown in the figure (pBluescript as a control). After 36 h the supernatants of the cell layer were removed and mixed with LacZ-transgenic adenoviruses (Ad-LacZ). Thereafter, NIH3T3 fibroblasts were infected with this mixture. The multiplicity of infection (MOI) here was 10. After 48 h the infected NIH3T3 cell layer was analysed for  $\beta$ -galactosidase expression by blue staining by X-gal substrate conversion in order to demonstrate the viral infection



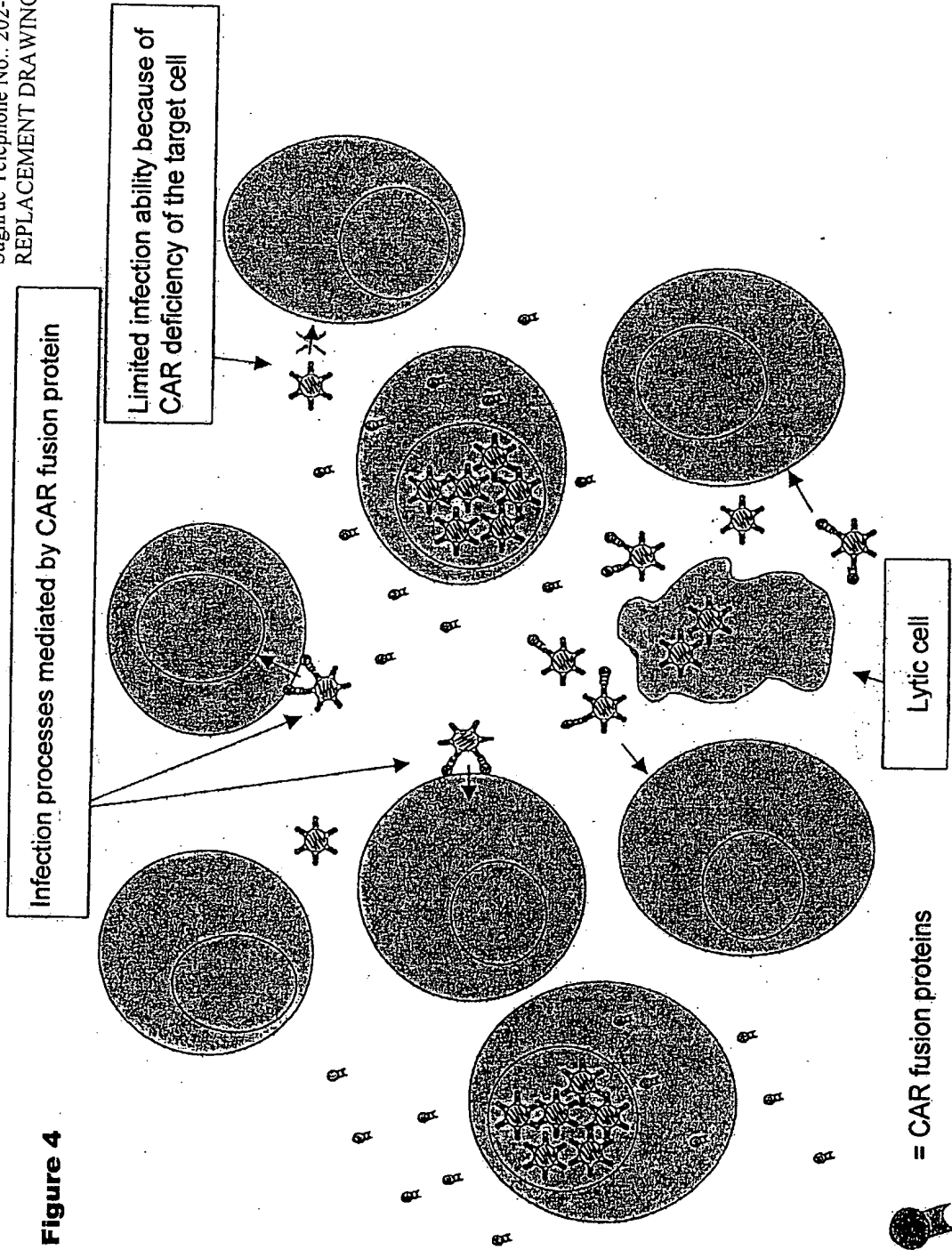
CAR binds the hexon protein of the viral particle, penton-bound integrin consequently gives the signal for internalization via endocytosis



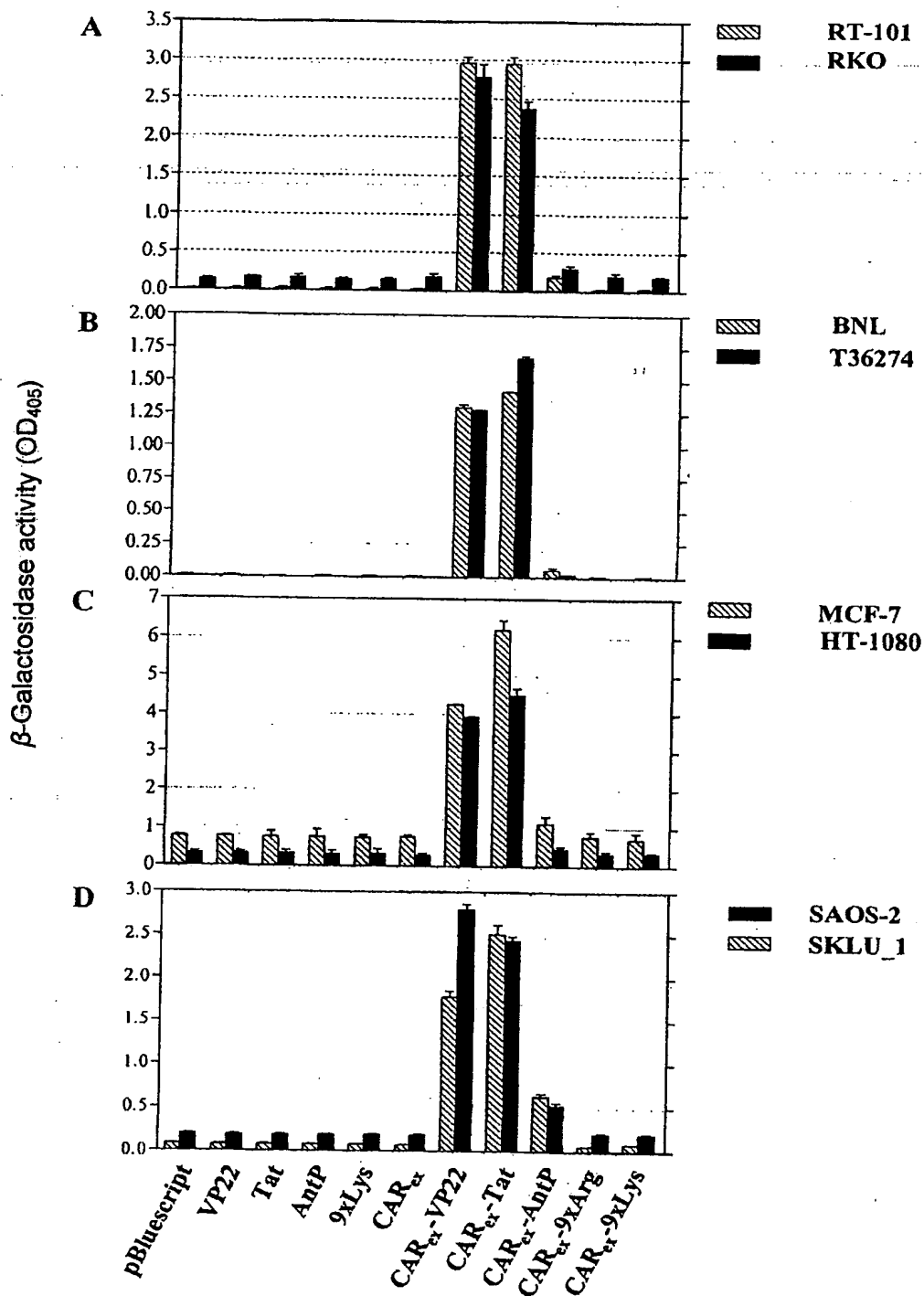
CAR fusion protein bound to the adenoviral hexon protein directs and sticks the particle to the cell membrane. Integrins consequently bind to the adenoviral penton protein as a signal for the internalization of the particle via endocytosis

CAR-deficient cell in the presence of CAR fusion proteins

**Figure 4**



**Fig. 5: Infection efficiency of various cell lines**



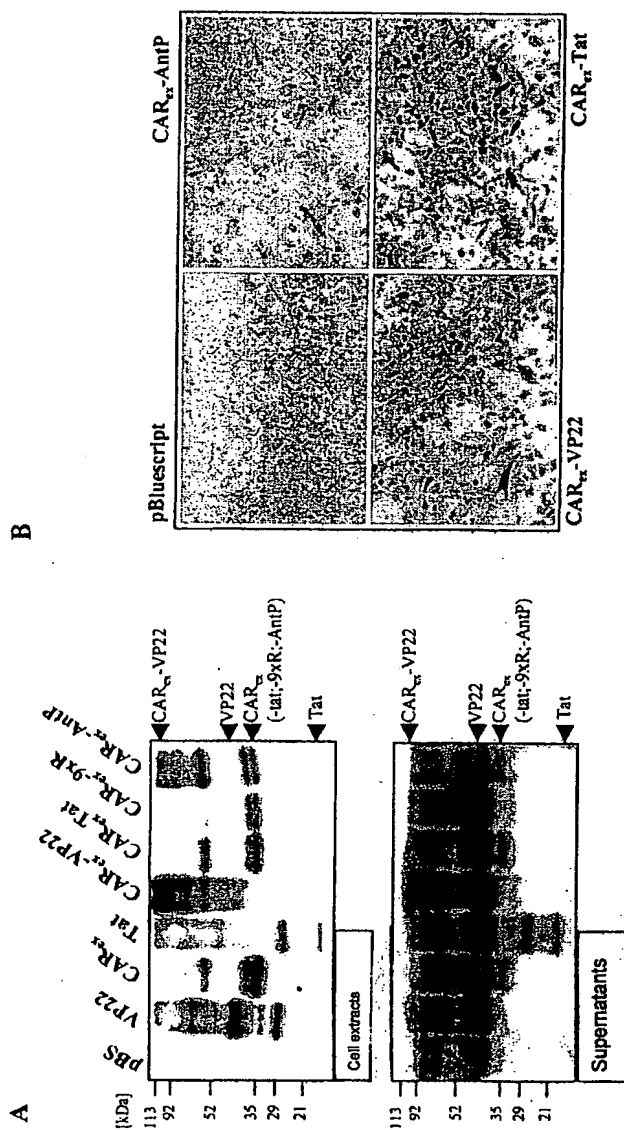


Fig. 6

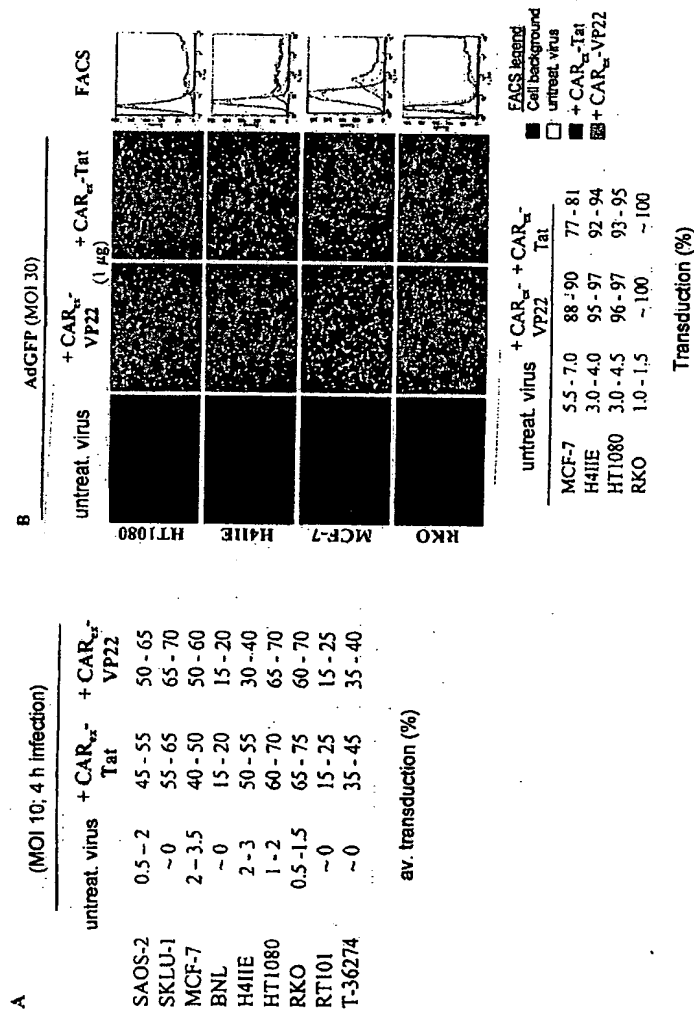


Fig. 7

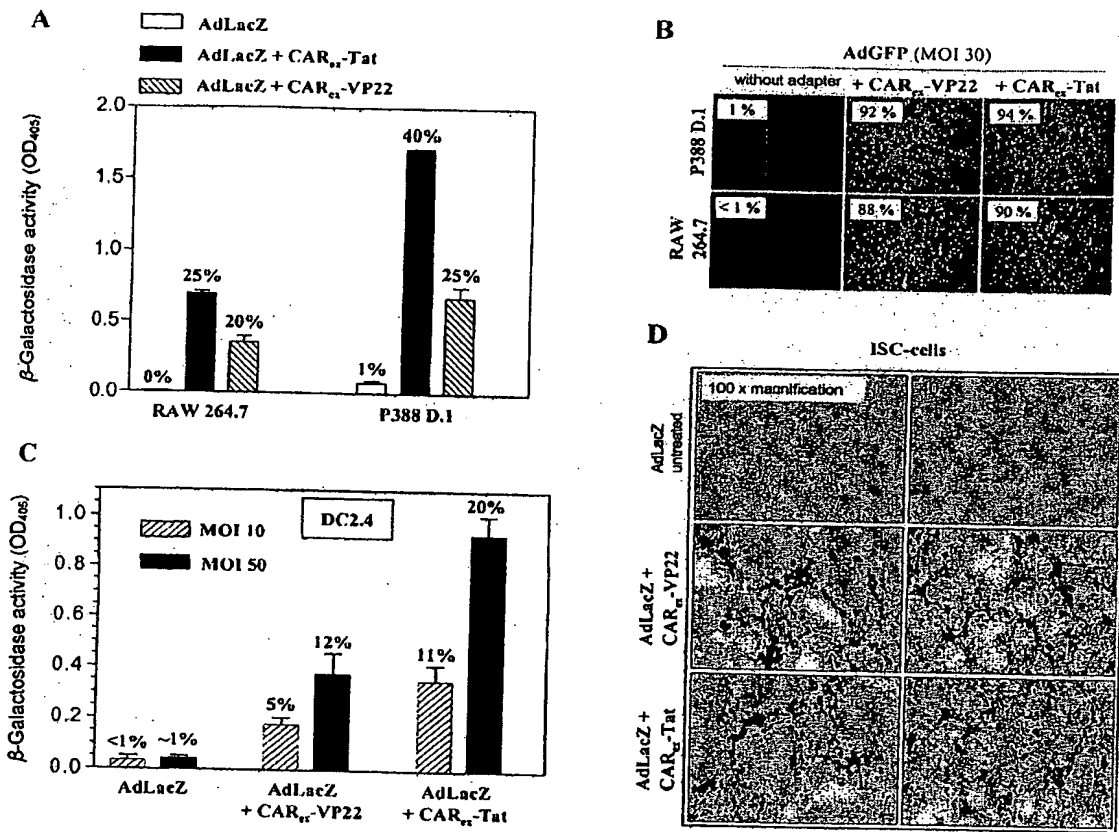


Fig. 8



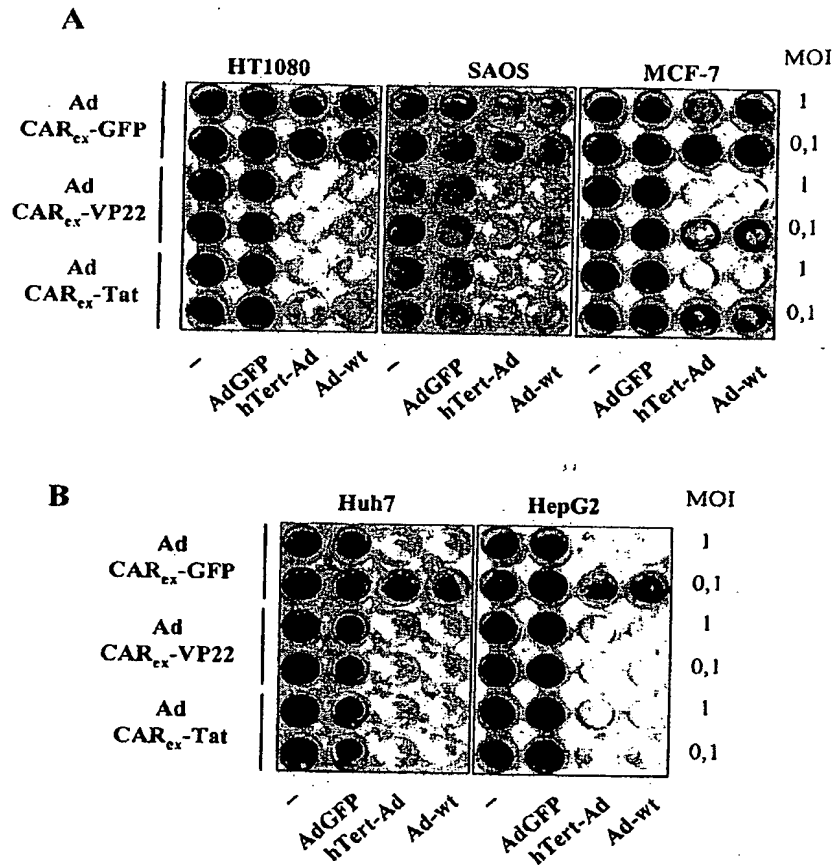


Fig. 9

U.S. Patent Application No. 10/583,249  
 Inventor(s): Stephan KUBICKA  
 Filed: June 16, 2006 Art Unit: Not yet assigned  
 For: MEDIZINISCHE HOCHSCHULE HANNOVER  
 Attorney Docket: Q95566  
 Sughrue Telephone No.: 202-293-7060  
 REPLACEMENT DRAWING Fig. 10

# AdGFP

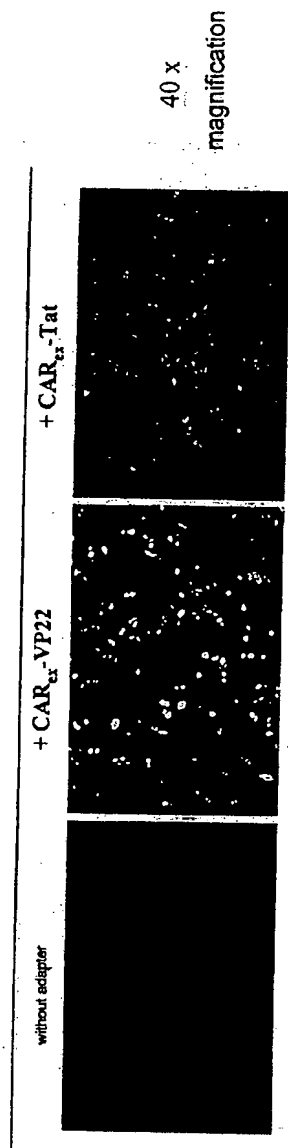
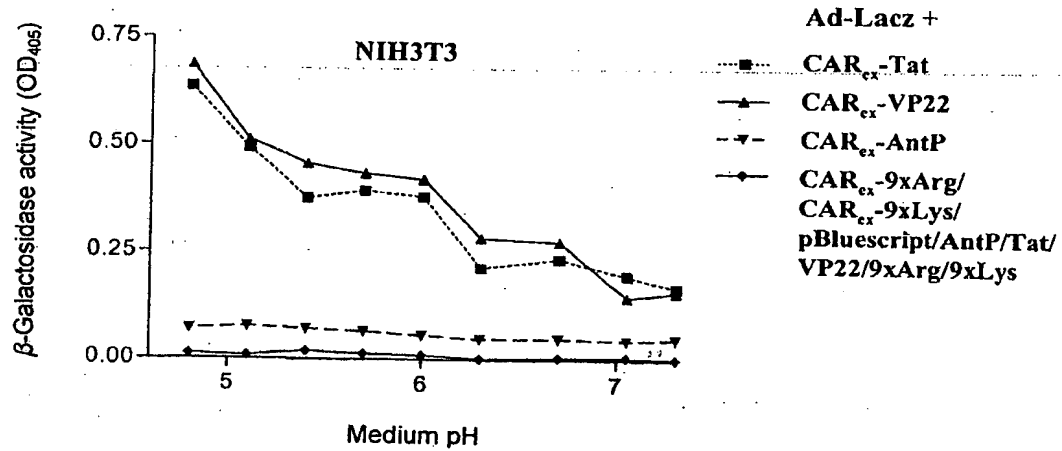


Fig. 10

**Fig. 11: Influence of the pH**



**Fig. 12: Influence of the time delay**

